Reciprocating blade system for knives, employed in order to achieve a highly effective cutting action without dragging upon the object to be cut.

This present invention concerns a reciprocating blade system for knives, with curved or arc-shaped cutting edge, allowing high cutting efficiency to be achieved without dragging on the object to be cut, and requiring the user only to execute the same to-and-fro movement as for a conventional knife. It differs from blades which are

circular, or which vary in circumference, of different shapes, rotating about an axis, in that it is similar to conventional blades but is characterised by a curved or arc-shaped cutting edge which has the ability to oscillate or to swing in relation to the support to which it is attached by any means which allows it to move in this way, so that the cutting edge is able to execute a to-and-fro movement on the object to be cut

when the handle is moved from front to rear as for any knife. In the method of implementation illustrated in figure 1, the blade (1) has a cutting edge (5) in the form of a circular arc, and is attached to a support rod (3) extended by a handle (4), by an pin (2) which allows it to oscillate along arrows (7) and (7bis). The blade (1) includes a stop (6), which arrests its to-and-fro movement at the limit of each direction, when

this stop comes up against parts (3bis) and (3ter) of the rod (3) (figures 2 and 3), so that the cutting edge (5) still remains in contact with the object to be cut, and prevents the blade (1) from over-rotating either partially or completely. This stop can take various forms, being of concave shape in this case, which is opposite to the convex shape of the support rod (3) at this point, this having the advantage of softening the

contact with parts (3bis) and (3ter) of the support rod. It can also be composed of a spring or of a soft material such as plastic or rubber. In the method of implementation illustrated in figure 4, amongst other possible means of attachment, the blade (1) is attached to the support rod (3) by a swivel (2bis) which also allows it to oscillate along

arrows (7) and (7bis). This swivel may be an integral part of the support rod (3) as in figure 4, and act as a hinge in the blade (1), or can be an integral part of the blade (1), and act as a hinge in the support rod (3). In this event, there is no need to equip the blade (1) with a stop, since the to-and-fro movement will be stopped when the

extremities (9) and (9bis) of the blade (1) come into contact with parts (10) and (10bis) of the rod (3). In the method of implementation illustrated in figure 5, amongst other possible means of attachment, the blade (1) is attached to the support rod (3) by a spring (2ter) which also allows it to oscillate along arrows (7) and (7bis). This spring (2ter) can be located in the extension of the support rod (3) as in figure or on the side

of this support rod as in figure 6. Other arrangements of this spring are also possible. In all these cases, the cutting edge (5) of the blade (1), can be smooth, toothed or micro-toothed. Thus, by positioning the curved side (5) of the blade (1) which forms the cutting edge, and pressing it onto the object to be cut, one only has to execute a to-and-fro movement of the handle (4) along arrows (8) and (8bis), as with any other

knife, so that the curved cutting-edge part (5) of the blade (1) rolls along it, in one direction and then the other, along arrows (7) and (7 bis), cutting in a highly effective manner and without dragging on the object one wishes to cut. The forward movement is detailed in figure 2, and the reverse movement in figure 3. By slightly displacing the pin (2) to the left of the arc forming the blade (1), the length of the cut is increased

when the handle is drawn backwards and vice versa. The shape of the handle, and the system for fitting it, can be varied and in different materials without affecting the operation of the system. The support rod (3) and the handle (4), can also be manufactured as a single part. The blade (1) can be made from various materials such as steels, ceramics, etc. that are normally used for cutting-blades. However, given the

efficiency of the system, it can also be made from plastic, especially when manufacturing inexpensive or disposable knives. The knives or tools equipped in this way are particularly effective and practical in all cases where one has to avoid dragging or disarranging the object to be cut. They make excellent individual table knives, especially for cutting foods in which hard parts alternate with parts that are soft

or break up easily, such as pizzas, quiches, pies, etc.